## REMARKS

In the Office Action dated February 11, 2004, the Abstract was objected to because it was over 200 words in length. The Abstract has been revised to reduce its length and is submitted to be in full compliance with the applicable rules.

Additionally, claims 12 and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by Mann et al or Lu. Claims 13-19 and 21-24 were stated to be allowable if rewritten in independent form.

The rejection of claims 12 and 20 as being anticipated by Mann et al or Lu is respectfully traversed for the reasons set forth below. Claims 13-19 and 21-24 therefore have been retained in dependent form at this time.

The Examiner is correct that both the Mann et al and the Lu references disclose various embodiments of pacemakers operable in a tracking mode and a non-tracking mode, and both references teach different types of logic circuitry and detection algorithms for determining when a switch from the tracking mode to the non-tracking mode should be made. Primarily, this involves the detection of atrial tachycardia.

As explained in the introductory portion of the present application, conventional approaches to controlling mode switching between a tracking mode and a non-tracking mode dependent on the detection of atrial tachycardia have focused on trying to improve the sensitivity of the detectors involved in the atrial tachycardia detection for the purpose of avoiding an unnecessary switching from the tracking mode to the non-tracking mode. Since the non-tracking mode typically involves a higher pacing rate, it is

desirable to avoid unnecessary pacing at such an elevated rate, even for a short duration.

As also explained in the introductory portion of the present specification, however, efforts at improving the sensitivity of the detectors involved in the relevant detection algorithm in conventional pacemakers have not adequately addressed the problem, because several situations can exist that can result in false detections of cardiac events that are interpreted as events that should be taken in to account in assessing whether atrial tachycardia exists, but which are really events unrelated to tachycardia conditions, and therefore should be ignored.

As the Examiner has correctly noted, both the Mann et al and Lu references employ a counter that counts cardiac events of a defined type, and if and when the counter reaches a predetermined count level, it is assumed that atrial tachycardia is present, and a mode switch is then undertaken. In the Mann et al and Lu references, however, once a detected event is determined to be of a type that justifies incrementing the count of the counter, the counter count is irrevocably incremented. There is no possibility for decrementing the counter count in either the Mann et al or Lu references, and therefore neither of those references provides any disclosure or teachings as to what detected conditions might occur that would justify decrementing the counter count. This is because the Mann et al and Lu references are examples of the type of conventional pacemakers described in the introductory portion of the specification, wherein the focus has been on making the initial detection of cardiac events sufficiently specific so that (it is

hoped) only events that are truly related to an atrial tachycardia condition will result in an increment of the count of the counter.

The subject matter disclosed and claimed in the present application proceeds on a different basis, which is nowhere disclosed or suggested in either of the Mann et al or Lu references. As set forth in claim 12, an indication of atrial tachycardia is recorded each time an atrial interval is detected that is less than an atrial tachycardia limit value. When the number of such recorded indications reaches a predetermined count limit, a switch from the tracking mode to the non-tracking mode is made. In the subject matter of claim 12, however, further cardiac events are detected and further cardiac event intervals are determined. As set forth in the last element of claim 12, these additional intervals are also compared to the tachycardia limit value and the recorded count of the aforementioned indications of atrial tachycardia is reduced by one, if at least one of the additional intervals during a pacemaker interval is longer than the tachycardia limit value.

In the subject matter disclosed and claimed in the present application, therefore, it is recognized that by detecting only an atrial interval, it is still possible, despite attempts to improve the sensitivity of the detection, that the detection will be falsified by other cardiac events. In the subject matter disclosed and claimed in the present application, a "correction" of the recorded count is then undertaken, by reducing that count by one, if certain other detected conditions exist.

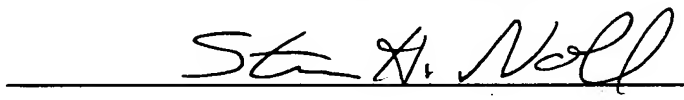
As noted above, neither the Mann et al reference nor the Lu reference provide any possibility, or describe any conditions, for reducing the count of

the counter. In both of those references, once the counter count is incremented, this is an irreversible action.

For the above reasons, neither the Mann et al reference nor the Lu reference discloses all of the elements of claim 12 as arranged and operating in that claim, and therefore neither of those references anticipates claim 12. Claim 20 adds further structure to the novel combination of claim 12, and therefore is not anticipated by Mann et al or Lu for the same reasons discussed above in connection with claim 12.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,



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SCHIFF, HARDIN :LLP
**CUSTOMER NO. 26574**
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicants.

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